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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,516	09/15/2003	Shenshen Wu	20020002.0350	7840

7590 01/03/2007  
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EXAMINER
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HUNTER, ALVIN A

ART UNIT	PAPER NUMBER
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3711

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/661,516

Applicant(s)

WU ET AL.

Examiner

Alvin A. Hunter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7,9,17,29,30 and 48-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,7,9,17,29,30 and 48-60 is/are rejected.
- 7) ☒ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The declaration filed on 12/04/2006 under 37 CFR 1.131 <sup>AMJ</sup> is sufficient to overcome the Kennedy et al. reference. See MPEP 715.04.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the golf ball" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 9 is rejected as being dependent upon claim 7.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, and 17 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cuscurida et al. (USPN 4301110).

In regards to claim 1, Cuscurida et al. discloses a process for making a RIM elastomer comprises (a) providing a first reactable component comprising an isocyanate-containing compound and a second reactable component comprising at least one of a polyol, polyamine, or epoxy-containing; (b) combining the reactable components together to form a reactive mixture compound; wherein the reactive mixture has a gelation time and wherein the first and second reactable components naturally has a viscosity of from about 25 to about 5000 cps at ambient temperature or at a temperature at which the reactable components are combined being that Cuscurida et al. discloses the polyol and polyisocyanates of the group disclosed by the applicant, and injecting the reactive mixture into a mold having a desired shape within a first time and wherein the first time is about 10 seconds or less (See Entire document, especially Examples). Though Cuscurida et al. does not explicitly disclose the first time being less than the gelation time, it is believed to be present because the gelation is dependent of the size of the mold and how quickly the mixture can be injected into the mold before gelation (See Examples). Further it should be noted that the preamble will not be given patentable weight (See MPEP 2111.02). One having ordinary skill in the art would have found it obvious to inject the mixture at any rate into the mold in order to obtain the desired shape before gelation.

In regards to claim 4, Cuscurida et al. discloses the isocyanate compound comprising a p-phenylene diisocyanate (See Paragraph bridging Columns 2 and 3).

In regards to claim 17, Cuscurida already discloses the composition solidifying in about 7.5 second. Being that Cuscurida et al. discloses the same components as that of the applicant it is submitted that the composition is capable of solidifying in less than 5 second.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30 and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuscurida et al. (USPN 4301110).

In regards to claims 30 and 55, Cuscurida et al. discloses a method for forming golf equipment, or a portion thereof in which comprises (a) providing a first reactable component comprising an isocyanate-containing compound and a second reactable component comprising at least one of a polyol, polyamine, or epoxy-containing', (b) combining the reactable components together to form a reactive mixture compound; wherein the reactive mixture has a gelation time and wherein the first and second reactable components naturally has a viscosity of from about 25 to about 5000 cps at ambient temperature or at a temperature at which the reactable components are

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combined being that Sullivan et al. discloses the polyol and polyisocyanates of the group disclosed by the applicant, and injecting the reactive mixture into a mold having a desired shape within a first time and wherein the first time is about 10 seconds or less (See Entire document, especially the Examples). Though Cuscurida et al. does not explicitly disclose the first time being less than the gelation time, it is believed to be present because the gelation is dependent of the size of the mold and how quickly the mixture can be injected into the mold before gelation. Further, it should be noted that the preamble will not be given patentable weight (See MPEP 2111.02). One having ordinary skill in the art would have found it obvious to inject the mixture at any rate into the mold in order to obtain the desired shaped before gelation. Cuscurida et al. does not explicitly disclose the amount of hard segment and soft segment to the total weight of the polymer, but one having ordinary skill in the art would have sought each the hard segment (isocyanate containing component) and the soft segment polyol) to be of any percentage of the total weight of the polymer and would have been obvious. Applicant does not set forth the importance or criticality of the amounts of each component; thus it is seen that any amounts can be used to carry out the above method.

In regards to claims 56 and 57, see the above regarding claim 30.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cuscurida et al. (USPN 4301110) in view of Bock et al. (USPN 4288586).

In regards to claim 54, Cuscurida et al. does not disclose the first reactable component comprising greater than about 14% by weight isocyanate groups. Bock et al. discloses a first reactable component, in particular a polyisocyanate, having greater

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than 14% by weight isocyanate groups (See Column 6, lines 5 through 14). One having ordinary skill in the art would have found it obvious to have greater than 14% by weight of isocyanate groups, as taught by Bock et al., in order to more easily process polyurethane.

Claims 29, 48-53, and 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuscurida et al. (USPN 4301110) in view of Peter (USPN 6174984).

In regards to claims 29 and 58, Cuscurida et al. discloses a method for forming golf equipment, or a portion thereof in which comprises (a) providing a first reactable component comprising an isocyanate-containing compound and a second reactable component comprising at least one of a polyol, polyamine, or epoxy-containing; (b) combining the reactable components together to form a reactive mixture compound; wherein the reactive mixture has a gelation time and wherein the first and second reactable components naturally has a viscosity of from about 25 to about 5000 cps at ambient temperature or at a temperature at which the reactable components are combined being that Cuscurida et al. discloses the polyol and polyisocyanates of the group disclosed by the applicant, and injecting the reactive mixture into a mold having a desired shape within a first time and wherein the first time is about 10 seconds or less (See Entire document, especially the examples). Though Cuscurida et al. does not explicitly disclose the first time being less than the gelation time, it is believed to be present because the gelation is dependent of the size of the mold and how quickly the mixture can be injected into the mold before gelation. Also, being that Sullivan et al. discloses its use within a golf ball, it would be implied that the mixture would take on the

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spherical shape of that of the mold when injected mixture fills the mold. One having ordinary skill in the art would have found it obvious to inject the mixture at any rate into the mold in order to obtain the desired shaped before gelation. Further it should be noted that the preamble will not be given patentable weight (See MPEP 2111.02).

Cuscurida et al. does not disclose a low free isocyanate monomer. Peter discloses a polyurethane composition being reactable with a low free isocyanate monomer (See Column 4, lines 4 through 25). One having ordinary skill in the art would have found it obvious to incorporate a low free isocyanate monomer into the polyurethane composition of Cuscurida et al., as taught by Peter, for economical purposes.

In regards to claim 48, Cuscurida et al. inherently discloses the second reactable component having a molecular weight of about 400 g/mol or greater being that the second reactable component is the same as that claimed by the applicant.

In regards to claim 49, Cuscurida already discloses the composition solidifying in about 7.5 second. Being that Cuscurida et al. discloses the same components as that of the applicant it is submitted that the composition is capable of solidifying in less than 5 second.

In regards to claim 50, the viscosity of the material is a property already present within the material; therefore, it is submitted that the combination of Cuscurida et al. and Peter both possess this property.

In regards to claims 51 and 52, Cuscurida et al. discusses the common method of combining the two components for forming RIM. Based on the background of the



invention the type of injection process and pressure would not be critical to carryout the method so long as the two components react rapidly.

In regards to claim 53, Peter discloses a first reactable component comprising less than about 0.1% free isocyanate containing monomer groups (See Column 5, lines 42 through 44).

In regards to claim 59, Cuscurida et al. discloses the isocyanate compound comprising a p-phenylene diisocyanate (See paragraph bridging Columns 2 and 3).

In regards to claim 60, Cuscurida et al. does not disclose the composition containing meta- tetramethylxylylene (TMXDI-); therefore, it is submitted that TMXDI is not present.

#### ***Allowable Subject Matter***

Claims 2 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

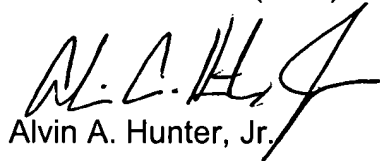
Applicant's arguments with respect to claims 1, 2, 4, 5, 7, 9, 17, 29, 30, and 48-60 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is 571-272-4411. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eugene Kim, can be reached at 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alvin A. Hunter, Jr.